TABLE 7-2
Data Quality Objectives for Ecological Risk Assessment (Remedial Investigation Subtask 5)
Remedial Investigation
San Gabriel Valley Area 3 Superfund Site

Step 1 – Define Basis of Evaluation

Overall Goal	Justification
Evaluate the potential risk to ecological receptors (plants and animals) from regional groundwater contamination in Area 3. Evaluation will determine whether additional investigation or remedial action is necessary in Area 3.	Potential risks to ecological receptors from potential exposure to regional groundwater contamination in Area 3 are unknown.

Step 2 – Identify Potential Evaluation Results

Potential Result	Consequences of Incorrect Results	Basis for Potential Incorrect Result	Methods for Avoiding an Incorrect Result
Potential ecological risks warrant action by EPA.	Taking action based on incorrectly deciding that regional groundwater contamination poses a significant risk to ecological receptors may waste resources.	Use of unreliable or inadequate data for critical decision making.	Ensuring sufficient confidence in data used to support decision making. Complete Step 7 (Optimize the Design).
Potential risks to ecological receptor risks do not warrant action by EPA.	Taking no action based on incorrectly deciding regional groundwater contamination does not pose a significant risk to ecological receptors, ecological receptors may be at risk.	Use of unreliable or inadequate data for critical decision making.	Ensuring sufficient confidence in data used to support decision making. Complete Step 7 (Optimize the Design).
Additional data collection necessary to adequately evaluate the potential risk posed by regional groundwater contamination to ecological receptors.	Collecting unnecessary data may waste resources.	Use of unreliable or inadequate data for critical decision making.	Ensuring sufficient confidence in data used to support decision making. Complete Step 7 (Optimize the Design).

COPCs – contaminants of potential concern
COPECs – contaminants of potential ecological concern
DQOs – data quality objectives
EPA – United States Environmental Protection Agency
MCL – maximum contaminant level
NL – notification level
OU – operable unit
RI – remedial investigation
TRV – toxicity reference value

Subtask 1 – Hydrogeologic Conceptual Site Model
Subtask 2 – Contaminant Source Identification
Subtask 3 – Contamination Migration Conceptual Site Model
Subtask 4 – Human Health Risk Assessment
Subtask 5 – Ecological Risk Assessment
Subtask 6 – Assessment of Next Steps

TABLE 7-2
Data Quality Objectives for Ecological Risk Assessment (Remedial Investigation Subtask 5)
Remedial Investigation
San Gabriel Valley Area 3 Superfund Site

Step 3 – Define Evaluation Boundaries

Boundaries for Consideration	Justification for Consideration
See Step 3 in Table 3-1 for information on the geographic boundaries for Area 3.	See Step 3 in Table 3-1.
See Step 3 in Table 3-1 for information on the aquifer boundaries for Area 3.	See Step 3 in Table 3-1.
Temporal Limitations: Complete exposure pathways include: – Surface water bodies containing discharged groundwater. – Irrigation water from groundwater production wells.	Risks to ecological receptors may occur where complete exposure pathways to contaminated groundwater are present.

Step 4 – Identify Areas Outside of the RI Evaluation Boundaries

Excluded Areas	Justification for Exclusion
See Step 4 in Table 3-1 for information on the geographic boundaries for Area 3.	See Step 4 in Table 3-1.
See Step 4 in Table 3-1 for information on the aquifer boundaries for Area 3.	See Step 4 in Table 3-1.
Media Limitations: Soil and sediment.	There is no evidence to indicate that the golf courses are a source of contamination in Area 3. Therefore, the ecological risk assessment only evaluates the potential risk from exposure to contaminated groundwater used for irrigation at the golf courses. Soil and sediment samples were not collected.
Exposure Pathway Limitations: Incomplete exposure pathways include: – Surface water in the Alhambra, San Pasqual, Rubio, and Eaton Washes. – Surface water in the Eaton Spreading Basin.	Ecological risks only associated with complete exposure pathways. Surface water in the washes and Eaton Spreading Basin generally consists of local precipitation runoff, not groundwater.

Step 5 – Identify Data Needs and Uses

Data Need	Data Use(s)	RI Report Reference(s)
Ecological Risk Screening Values for Surface Water: – Federal Ambient Water Quality Criteria. – California MCLs and NLs. – Los Angeles Region Basin Plan Water Quality Objectives. – Canadian Environmental Quality Guidelines and Ecotox Thresholds.	– Compare COPEC concentrations to TRVs to identify chemicals that potentially pose a risk to lower trophic level ecological receptors (e.g., fish and plants). – Compare modeled diet-based COPEC uptake to dietary-TRVs to identify chemicals that potentially pose a risk to higher trophic ecological receptors (e.g., birds and mammals).	Section 7.4. Appendix G.
Hydrogeologic Conceptual Site Model (RI Subtask 1). – Current and future groundwater uses.	– Identify potential complete exposure pathways. – Identify potential ecological receptors of contaminated groundwater. – Assess potential ecological risks.	Section 7.4. Appendix G.

COPCs – contaminants of potential concern
COPECs – contaminants of potential ecological concern
DQOs – data quality objectives
EPA – United States Environmental Protection Agency
MCL – maximum contaminant level
NL – notification level
OU – operable unit
RI – remedial investigation
TRV – toxicity reference value

Subtask 1 – Hydrogeologic Conceptual Site Model
Subtask 2 – Contaminant Source Identification
Subtask 3 – Contamination Migration Conceptual Site Model
Subtask 4 – Human Health Risk Assessment
Subtask 5 – Ecological Risk Assessment
Subtask 6 – Assessment of Next Steps

Step 5 – Data Needs and Uses (continued)

Data Need	Data Use(s)	RI Report Reference(s)
Contaminant Source Identification (RI Subtask 2). – Environmental data at monitoring and production wells. – Key COPC identification.	– Compare environmental data to TRVs to assess potential ecological risks from contaminated groundwater. – Estimate exposures (ingestion and dermal contact) to ecological receptors.	Section 4.3. Section 7.5. Appendix G.

Step 6 –Evaluate Data Usability

Data Type	Data Generation and Reliability	Assessment Performed
Ecological Risk Screening Values for Surface Water: – Federal Ambient Water Quality Criteria for chronic exposure of freshwater organisms – California MCLs and NLs. – Los Angeles Region Basin Plan Water Quality Objectives. – Others, such as Canadian Environmental Quality Guidelines and Ecotox Thresholds.	Toxicity values used in the ecological risk assessment are peer-reviewed, formally published, and generally of known and usable quality.	Appendix G summarizes uncertainties in the ecological risk assessment.
Hydrogeologic Conceptual Site Model (Subtask 1). – Current and future groundwater uses.	See Step 6 on Table 3-1 for information on data generation.	See Step 6 on Table 3-1.
Contaminant Source Identification (RI Subtask 2). – Environmental data collected at monitoring and production wells. – Key COPC identification.	See Step 6 on Table 4-1 for information on data generation.	See Step 6 on Table 4-1.

Step 7 – Optimize the Design

Actions	Methods for Optimizing the Design
Ecological risk assessment showed no potential risk for contaminated groundwater to impact ecological receptors.	None.

COPCs – contaminants of potential concern
COPECs – contaminants of potential ecological concern
DQOs – data quality objectives
EPA – United States Environmental Protection Agency
MCL – maximum contaminant level
NL – notification level
OU – operable unit
RI – remedial investigation
TRV – toxicity reference value

Subtask 1 – Hydrogeologic Conceptual Site Model
Subtask 2 – Contaminant Source Identification
Subtask 3 – Contamination Migration Conceptual Site Model
Subtask 4 – Human Health Risk Assessment
Subtask 5 – Ecological Risk Assessment
Subtask 6 – Assessment of Next Steps